

AMERICAN EDUCATIONAL MONTHLY.

MAY, 1873.

POPULAR ERRORS AS TO THE SUN'S TIME AND PLACE.

DOES not the Sun always rise in the East and set in the West? No.

Is it not always 12 o'clock, when the Sun is on the 12 o'clock mark? No.

Does not the Sun keep, and has he not always kept, more regular time than any time-piece made by human hands? No; the sun is *regularly irregular*.

To many persons the above answers will cause surprise. They have never questioned these facts so boldly denied, nor have they ever known them questioned. To their minds, these have been certainties, if there are certainties in nature, and the denial now strikes them as a sort of semi-infidelity. Nevertheless the answers given above are correct, practically, as well as astronomically, and are worthy of being more thoroughly understood by all. Let us look at each question in turn.

Question First, as to the Place of the Sun's Rising and Setting.

On the 21st day of March and the 22d of September, the times of the equinoxes, there are two occurrences to be observed which mark no other seasons of the year,—the days and nights are of equal length over all the earth, and

the places of the sun's rising and setting are exactly east and west. If any one wishes to determine the exact point east from his door, let him, on the morning of either of the equinoxes, note, on the distant horizon, the tree-top, or house, or mountain crag, over which the centre of the sun's disc passes in rising. Nor will any difference be made in the result if, by reason of the observer's place being in a valley, or on a ridge, that distant crag or tree top should be far above or far below the astronomical horizon; for the sun's centre will be upon the east and west lines through the *whole of the revolution* that day and that night.

But let the observer wait for a week or two, then make another observation, and he will find that the sun no longer rises and sets where it did before. After the equinox in March, it will have gradually traveled north, until the 21st of June, when its place of rising and of setting will be as many degrees north of east as will equal the sum of twenty-three and a half degrees added to the observer's degree of latitude.* Near the arctic circle where, on the 21st of June, the sun disappears but a moment behind the horizon, and when, on the 21st of December, it appears for only a moment above it, these momentary risings and settings are always *due south*.

The answer to question first must therefore be that the sun rises and sets exactly in the east and west only twice every year, and that at the time of the equinoxes.

Question Second, as to whether it is not always 12 o'clock when the sun is on the 12 o'clock mark, can only be elucidated by facts belonging more appropriately to question third. In the mean time, a practical answer may be given, by referring to a column to be found in many almanacs, in some marked "*Equation of Time*," in others marked "*Sun fast*" and "*Sun slow*," which means that the *sun's twelve o'clock* is faster or slower than the *clock's twelve o'clock*, by the number of minutes there given. The variation thus noted

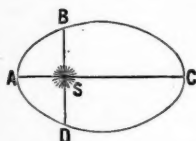
* Ere the ink of this sentence is dry, nature has furnished an illustration, exceedingly beautiful, of the fact that in midwinter in latitude 34°, the sun sets far to the south of west. This is the 2d day of January. The sun is just setting. A heavy shower has blown over, and the whole northeastern heaven is spanned by one of the most brilliant and perfect of rainbows. Its southern foot now stands a few degrees south of east, while its northern foot has barely disappeared from the horizon a few degrees east of north. This proves the sun's position at setting to be nearly southwest.

amounts at two seasons of the year to as much as sixteen or seventeen minutes, though usually it is less. There are only four periods of the year,—the middle of April and June, and the last of September and December,—when the sun's time and clock-time coincides.

Question Third, which asks if the Sun is not more regular than any human time-piece, will require a somewhat more elaborate answer. In one sense the sun is incomparably more exact than any piece of earthly mechanism (or rather *the earth is*, for the motions usually referred to the sun are properly referable to our own globe), but in another sense it is far from being as exact as any approved chronometer. To explain: The earth has two motions radically distinct, both of which are measured by the clock. One of these motions is that revolution upon its own axis which gives us the experience of day and night. If this motion be measured by *star-time*, it will be found to be at all times perfectly the same. That is if a man take any fixed object, the edge of a distant wall for instance, behind which a certain star—a *fixed star*—shall pass, and have a certain fixed place for resting his head, he will find by means of a perfect chronometer that the star selected for observation will pass that point every night exactly 23 hours, 56 minutes, 4 seconds and 9 hundredths of a second after its preceding passage. This is *star-time*, but it is about four minutes short of clock-time; and why? For this reason, that the earth by its revolution round the sun, in the same direction with its diurnal revolution has *one more rotation* upon its axis, to make during the year, than is counted when the days are counted by the risings and settings of the sun, just as a vessel, sailing westward around the earth, *gains a day*, without its being noticed, till the vessel returns to port. Now this day, gained during the year, if resolved into minutes, and divided by 365, will give the four minutes difference between solar and sidereal time. But whoever will take that same place, chronometer in hand, and mark the minute and second when the *sun's centre* passes the point selected, will find no such regularity. In fact the days, measured by the sun, are not all of the same length; a day about Christmas time is about a *minute longer* than a day at

the September equinox, one being about 24 hours and 30 seconds, and the other 23 hours, 59 minutes and 30 seconds. Why so? The answer to this question renders it necessary that we shall bring in another element, the earth's revolution round the sun,—that other motion alluded to.

Were the earth's path around the sun a circle, in which the earth moves with uniform velocity, then the length of all the days would be exactly the same, *i. e.* 24 hours, and then sun-time and clock-time would always be together, and both be about four minutes (additional every day) ahead of star-time. But the earth's path is not a circle, it is an ellipse, and the sun is not in the centre



of it, but on one of its foci, see Fig: in which A, B, C, D represents the earth's orbit around the sun S; and in which the points B and D represent the equinoxes, and A and C represent the solstices. Since a whole

day is gained in the course of the whole revolution A, B, C, D, it is manifest that one-fourth of a day must be gained in each one of the *unequal quarters* (as they may be called) A B, B C, C D and D A. Now, supposing the speed of the earth is the same in all parts of its orbit, it is manifest that the *short quarters* D A and A B, in each of which six hours (quarter of a day) are gained, will be accomplished in less time than the long quarters B C and C D, in each of which also six hours only will be gained, which is equivalent to saying that the days in the perihelion part of the earth's orbit, D A B, are longer than those in the aphelion portion of it B C D, for the reason that the twelve hours of time gained is divided among a smaller number of days in the one case than in the other.

But the *speed of the earth is not the same in all parts of its orbit*. It is greater at the perihelion point A, than it is in the aphelion point C, for the reason that from the point C the earth is virtually *falling towards* the sun, until it reaches its nearest point A; and from the point A it is virtually *projected from* the sun until it reaches its farthest point C. In both its ascent and descent it must obey the same laws

as a stone falling to the earth, after being projected from it; its motion is constantly accelerated in the one case, and retarded in the other. From the point C, the earth would fall to the sun, were it not for its projectile motion, which carries it to one side as far as D, and thus causes it to *shoot past*, in the curve D A B, and begin again its departure on the other side of the ellipse A B C. With these facts in mind, it is manifest that not only is the perihelion *half*, so called, D A B, of the earth's orbit, shorter in distance, but it is passed over with greater speed. The difference in time between these, so called, "halves," may be calculated by any one who will count the number of days included in the perihelion half, from Sept. 22d to March 21st, and the number included in the aphelion half, from March 21st to Sept. 22d,—in the first named of these they are $181\frac{1}{4}$, in the other they are 184, being a difference of two and three-fourth days.

Keeping now in view these two causes of variation from equable time,—viz., that the winter "half" of the earth's orbit is considerably shorter than the summer "half," and also that it is passed over with a decidedly greater velocity, we may see how it is that the sun's time is more exact yet far less exact than that kept by man-made chronometers. It is *perfectly exact*—which cannot be said of any human time-piece—when you compare any one *whole* revolution with another, or any one point of a revolution with the same point in any other revolution,—for each year, counting from whatsoever point you will, measures, in *sidereal* time, 365 days, 6 hours, 9 minutes, 9 seconds and six-tenths of a second, and in *equinoctial* time—which includes an element we have had no occasion to consider—365 days, 5 hours, 48 minutes, 49 seconds, and seven-tenths of a second. But it is *never exact* when you compare any two days of the 365 with any other two days of the same period. Indeed *no two days together*, throughout the year, are exactly of the same length, except by a rare accident at the points of greatest or least excess. There is a ceaseless waxing and waning of apparent time. A chronometer, on the contrary, is constructed on the principle of keeping *equable time*, and of dividing each year into 365 exactly equal parts. The

continual increment of the sun's apparent motion at one part of the year and decrement at another, cause that departure from equable time which call for the columns in the almanacs marked "sun fast" or "sun slow," and which show a variation amounting sometimes to more than a quarter of an hour.

REV. F. R. GOULDING,

THE STRUCTURE OF THE APPALACHIAN ZONE.

PART FIRST.

IF one examines the map of our country he will find stretching from the St. Lawrence at the north-east to central Georgia and Alabama, at the south-west, a series of rudely parallel mountain ridges, each made up of disjointed parts, of varying height and throwing off spurs in every direction. This series forms the eastern rim of the cup, called North America, and is known as the Appalachian Zone.

It rises somewhat abruptly near the St. Lawrence River in a belt of broad low mountains, and running south-westwardly, attains its greatest width in central Pennsylvania and northern Virginia, whence it narrows to central Alabama, where the several ridges fade away beyond recognition. The whole length is nearly fifteen hundred miles, so that to the Indian it was indeed the "endless mountain." In height the mountains of this chain are not imposing, seldom reaching more than four thousand feet above the sea-level, while ordinarily the hills rise only from eight hundred to two thousand feet above the adjoining valleys. Unlike the Rocky Mountains and the Sierra Nevada the Appalachians deserve the title of mountains, not so much because of their altitude as because of their immense mass.

The ridges of this zone appear to form three well-marked divisions. The first is the greatest in length and begins at the extreme north-east, near the St. Lawrence River. In Vermont it is known as the Green Mountains, in our State as the Highlands-on-the-Hudson: in Pennsylvania as the

South Mountains, in Virginia as the Blue Ridge, and in the Carolinas as the Unaka or Smoky Mountains. The White Mountains of New Hampshire may be regarded as belonging to this division. In Pennsylvania the continuity is entirely broken so that the South Mountains consist of two separate ranges, the northerly one being an extension of our Highlands and reaching to the Schuylkill at Reading, and the other reaching from the Susquehanna southwardly until it is merged in the Blue Ridge. The rocks of all these ranges are for the most part those of the oldest, and are chiefly massive granites or gneissoid and slaty rocks. In height the mountains of this division are variable, ranging from six hundred feet in Pennsylvania to six thousand in the Southern States, but everywhere they are so abrupt and harsh in their outlines, that even the hills, only six hundred feet high, are well called mountains. In width this belt varies from five to twenty miles. A good conception of its general character in the southern extension can be acquired at Harper's Ferry, where breaking through the Blue Ridge the Potomac River exhibits one of the most picturesque scenes in our country. In Pennsylvania, however, the scene is tame and monotonous.

Adjoining this division on the north-west is that remarkable valley extending from Vermont to Alabama, and termed by the Professors Rogers "The Great Appalachian Valley." In Vermont and New York this is known as the Valley of Lake Champlain and the Hudson River, or, as some have called it, the Valley of Newburgh. In Pennsylvania it is the Kittatinny or Cumberland, while in Virginia and beyond it is the Great Valley of Virginia and Tennessee. In width it varies from ten to twenty miles, and, except in its extreme northern extension and in lower Virginia, it is unbroken by spurs or ranges, but presents a broad fertile valley, bounded on both sides by somewhat abrupt mountains, whose foothills have a very gradual slope. Its elevation increases to the south-west, for on the Hudson River it is washed by tidewater; at Easton, Pennsylvania, it is one hundred and sixty feet above the sea-level, while in southwestern Virginia its altitude is two thousand feet. This beautiful valley is interesting alike to the artist and the

economist. The Kittatinny Valley, viewed from the Jenny Jump, in New Jersey, a spur of the South Mountain, or from Neversink Mountain, near Reading, affords a scene of quiet beauty rarely excelled. For the most part the soil is of unsurpassed excellence, the streams are rivers, and underlying all are vast treasures of mineral wealth. Remarkably free from malarial influences, with climate and soil well adapted to agriculture, and lying midway between the coal region at the west and the Atlantic border at the east, the prosperity of this valley is almost without parallel in our country.

North-west of this valley we find the second mountain division, made up of many low parallel ridges, usually very straight and often of considerable length. Though presenting no Alpine forms, no needle-like peaks, no jagged crest line, towering above perpetual snow, cleft by deep valleys, and giving rise to enormous glaciers, grooving and polishing the surface over which they pass, this strangely complicated division is as attractive as though it possessed all these features of the Alps. "Nowhere else on the known earth is its counterpart for the richness and definiteness of geographical detail. It is the very home of the picturesque in science as in scenery." Here was found the key by which American geologists were enabled to explain to Europe the structure of the Jura. As Lesley says, "Years of patient toil it cost us to unfold the mysteries of the Pennsylvanian and Virginian range—a tangled hank, to be untangled thread by thread, and re-arranged skein by skein—a tracery more elaborate and intricate than Gothic or Arabesque—nature's primeval labyrinth, in which the minotaur was but a form of science cast in metal and sculptured in stone: a sphynx whose riddle has at length been read and written out by men like Henderson and Whelpley, in what are now to be forever the hieroglyphics of geology."

These ridges have sharp summits and steeply sloping sides, to be likened only to the steep roofs formerly in vogue in our cities. For fifty miles the crest of the ridge shows an unbroken level, save where some stream, running continuously down the mountain side, has cut out a cañon, or where, during the throes amid which the mountain was

born, the strata were rent from top to bottom, opening a cleft which, enlarged by the ceaseless wear of a river for almost countless years, now appears as a dark, gloomy gorge, with nearly precipitous walls and choked by huge fragments of the cliffs above. Nor are the ridges always simple. Not unfrequently two are united and between them runs a boat-shaped valley, widening and deepening as it recedes from the point of junction. Usually, however, the valleys are long and narrow, and the ridges for the most part taper off gradually, while upon the average their elevation is little more than eight hundred feet above the adjacent valleys. This division, varying from thirty to sixty miles in width, reaches from the Hudson River near Rondout, where it is the Shawangunk Mountain, to the northern border of Virginia, and attains its greatest lateral extent in central Pennsylvania. Its rocks differ from those of the Blue Ridge or first division in that they are in regular layers, or, technically speaking, are stratified. It is of much economical interest to us, as in some of its valleys are found the small areas of anthracite coal upon which we are dependent.

Separated by a long curving valley from the second division, we find still further to the north-west the third and last division, the Alleghany Mountains, known in New York as the Catskills, and in Tennessee as the Cumberland. This begins near the southern border of New York and continues to central Alabama, where it disappears under the later formations. Throughout its whole extent it may be regarded as a vast plateau or table-land, having a steep slope on the east but falling off gradually towards the north-west. It is the dividing ridge between the waters of the Atlantic slope and those of the Ohio Valley. Only two rivers, the New River of Virginia, and the Tennessee cut completely through it, and these empty into the Ohio. West of the main or Alleghany axis several minor ridges interrupt the continuity of the table-land in Pennsylvania and West Virginia, while farther to the west in Ohio a few ripples are seen, so gentle that their existence can be detected only by careful investigation of the rocks composing them. The table-land character of the western slope is

well marked in both Pennsylvania and West Virginia, where great tracts of arable land, termed "glades," are found at the highest elevation. "Undulating plains, which, but for their majestic timber, would recall to mind an Illinois prairie, reach along the mountain summits for miles in length and breadth, with scarcely here and there a swell sufficiently bold to divide the waters." A recent writer, referring to the climate of this higher region, says: "The traveler upon ascending it, if not absorbed by the novelty and grandeur of its almost primeval scenery, is impressed with the singular dryness and purity of the atmosphere, the crystal limpidity of the springs and streams, and the tonic, bracing effect of the mountain air at all seasons of the year; the sensation is one of buoyancy of spirit and sudden relief from the cares of health and the fears of premature death—in fact, the most remarkable instances of human contentment and longevity in the State are found in the settlements of this mountain range."

The ridges of this division, like those of the middle mountain belt, are rudely parallel and marked by evenness of their crests. On the old stage route from the Ohio River to White Sulphur Springs, one comes full in sight of these parallel ridges as he crosses the summit of Little Sewell Mountain. Then at an elevation above that of the section east of him he sees in front the long lines, broken here and there only by gorges cut or widened by the streams, resembling a series of huge breastworks, while behind him are the Gauley and Sewell mountains, an aggregate of disconnected hills, apparently without order and to be likened only to immense masses of rubbish thrown indiscriminately here and there over the country. The scenery in many portions of this division is grand beyond description. Now, that the Chesapeake and Ohio Railroad has cut its way through to the Ohio, some of the localities along its line will become familiar to many. Among these the gorge of New River in its passage through Gauley Mountain is not the least remarkable; but hitherto inaccessible, except by tedious and painful stage-ride through the wild and lonely defiles of the Alleghany's outliers, it is comparatively unknown. Its walls, in many places practically perpendicular,

are from six hundred to one thousand feet high. From the old stage road the river, a large and rapid stream, playing among massive fragments of rocks, seems like a brook. So steep are its walls that for miles no foothold could be found for the railroad laborers, who had to be suspended by ropes until an opening could be made by the blast. For miles no wagon can reach the river from the stage-road, so that last autumn, though only thirty miles intervened between the east and west sections of the railroad, it was still necessary to go by stage from the Falls of Kanawha to White Sulphur Springs, a distance of seventy miles. Farther to the north we find the gaps of Fygart's and Cheat rims, through the subordinate range of Laurel Hill, scarcely less impressive. In the latter the walls rise to a height of more than one thousand feet above the river in a succession of narrow terraces, with precipitous escarpments, while the bed of the river is choked with immense fragments of conglomerate, some of them as large as an ordinary log-house. This is the west gate of the Alleghanies and is a fitting portal.

A NATIONAL UNIVERSITY.

THE word "University" is one of rather indefinite signification with us. So many institutions from Harvard down have assumed the title, that it is hard to determine whether its proper synonym is college, or high-school. The charitable Mr. Smith arranges that at his death, when he will have no further use for his money, it shall be devoted to the building and endowment of the Smith University; an institution teaching little but the elementary branches, and complete in all its appointments except professors and students. The roll of many a Smith University is indeed large, but it is made up in good part of those in the Preparatory Department, whose ages range from eight years upward. Now we do not object to these institutions, they do good in their way, but they have no right to the title they assume. Again, a few of our best

colleges have adopted the name of university, and have introduced some of the characteristics of such an institution into their curriculums, hoping thus to meet the demands of the case, while on the contrary they do much harm. Harvard has, we believe, abolished compulsory attendance on lectures, while the requirements for admission are such that boys sixteen and eighteen years old can pass the examinations and become students there. Now imagine a boy of that age, away from home, not *obliged* to prepare recitations daily, and will he not naturally take matters very easily and trust to "cramming" at the end of the term to get through? This he does, not because he is bad or more than ordinarily lazy, but because he is a young fellow not used to independence and fond of fun. We leave out of consideration the hurt he receives in forming habits of mental and bodily laziness, the waste of time, and the unprofitableness of cramming; for facts stuffed into the brain in that way do not remain much beyond the examination. This increase in the number of universities shows that there is a felt need for something better than we now have. Our common schools have the reputation of being the best in the world, and they are ably supplemented by the High Schools and Academies. Our colleges take the graduates of these latter and advance them still further; a very good system so far as it goes, but it does not go far enough. As yet no institution has advanced sufficiently to begin its course of instruction where colleges leave off. A National University, supported by the general government, would perhaps best meet our needs. To found such an institution and to insure its success requires money and influence enough to place it beyond the reach of the numerous rival universities which now cumber the educational ground. This is no new idea. Washington advocated it, as did also Thomas Jefferson and John Quincy Adams. Washington said: "The University would most thrive if sustained by the resources of the whole nation, and would give to the people of this country a homogeneous character, tending as much as any other circumstance, to the permanency of the Union." All efforts in this direction have thus far been without results, if we except the foundation of the Naval

and Military Academies and the State Agricultural colleges. The bill to give public lands to these latter has been rejected by Congress, but we will not be sorry for that if the land is given instead to endow a National University. Such an institution would be a vast saving in time and money to the large number of Americans who are now obliged to go to Europe to supplement their college course, and many a professional man—lawyer, physician, or clergyman—would be glad to break away for a time from his labors to attend lectures on subjects in which he is interested. In regard to the last named profession, the clerical, there might indeed be some difficulty, as we have no State religion, but for that matter every known “ism” might have a lecturer, and it might do not a little good in demonstrating to the various sects that, in fundamental matters, there is in reality little difference between them, or at least they might learn to regard each other as honest people, honestly differing on doctrinal points. There is another advantage which we must not omit to mention. Discoveries in science are not made by accident, but are the result of patient observation and investigation. To observe and investigate, a man must be enabled to devote himself exclusively to one branch of study, and not be obliged to expend his mental activity on a variety of subjects, as our college professors often must do. The attention of a German professor is directed solely to one subject, and on that he works. After most careful study and thought he writes his lectures. These he rewrites again and again as he gains more accurate or more extended knowledge of his specialty, and finally he gives the result of his labors in a book. It is this system which has advanced Germans so far in knowledge, and which has given them so many works universally regarded as the best expositions of literary and scientific subjects. It is to obtain like results that we plead for a genuine University, one supported by government, because no other could command the requisite money and influence. If it were proposed to form a university of Harvard; Yale, Bowdoin and Rutgers would strenuously oppose the plan, while were it suggested to confer the honor on Yale, the other three would oppose that just as earnestly. Some

question if we can support even *one* University, arguing that our former efforts in this direction have not proved successful; but we have failed thus far, because we have been trying to support one hundred, while we have students for only one or two. In every German university there are a score of Americans, but they are not a tithe of those who would attend them were the difficulties in language, time and expense, not so great. Would not these students remain at home if they could obtain the same advantages here as in Europe? The development of our natural resources has until lately occupied our time and thought, but now as we have more leisure, our intellectual needs are receiving more attention, and the demand for higher education increases steadily. Colleges do not any longer meet our wants; we must have something more advanced,—a University worthy the name.



EMINENT FOREIGN TEACHERS DECEASED IN 1872.

JAN. 24. Professor FRIEDRICH ADOLPH TRENDELENBURG, Ph. D., J. U. D., who was born at Eutin, in Oldenburg, Nov. 30, 1802, educated at Kiel, Leipsic, and Berlin, and had been professor of philosophy in the University of Berlin since 1833, died in that city. He was the author of numerous philosophical works.

Feb. 4. The Abbé AUGUSTE JOSEPH ALFONSE GRATRY, better known as *Père Gratry*, born at Lille, March 30, 1805, educated in the polytechnic school, and subsequently in a Catholic Ecclesiastical Seminary, director from 1841 to 1846 of the College Stanislas, Almoner and professor in the Supe-

[NOTE.—In the sketches of Eminent American Teachers deceased, in the April No. of the MONTHLY, two typographical errors occurred which are too important to be passed over without correction. The writer of these sketches did not see the proofs until it was too late to correct them. On page 165, JOHN PIERCE BRUCE should have been JOHN PIERCE BRACE; and in the seventh line of that sketch, "honorable and notable *men*" should have been, "honorable and notable *women*." Mr. Brace, we believe, never taught male pupils.]

rior Normal School from 1846 to 1852, and professor of Evangelical Morals in the Sorbonne from 1863 to 1870, died in Montreux. He was elected a member of the French Academy in 1867. His sympathy with *Père Hyacinthe* cost him his position in the Sorbonne.

Feb. 18. Prof. OEHLER, a professor of theology in the University of Tübingen, of the Rationalistic school of Baur, died in that city.

On the 6th of March, Professor THEODOR GOLDSTUCKER, an eminent Orientalist, Professor of Sanskrit in the University of London for many years, died in London. He was a man of great modesty, but a profound scholar and an able teacher.

April 1st. Rev. FREDERICK DENISON MAURICE, D.D., born in 1805, educated at Trinity College, Cambridge, and having taken orders in the Established Church, became Chaplain and Reader at Lincoln's Inn, and in 1846 Theological Professor in King's College, London. About 1860 he resigned his professorship, but devoted himself with Charles Kingsley and others to promoting the education of the working classes. He died in London.

On the 19th of April, RICHARD WESTMACOTT, R. A., F. R. S., an eminent English sculptor, died in London, aged 73 years. He had been since 1859 Professor of Sculpture in the Royal Academy of Design.

In April also died at Geneva, Prof. FRANCOIS JULES PICTET, called DE LARIVE, an eminent Swiss Naturalist, professor and author, born in Geneva in 1800, educated in the Academy of Geneva, and for more than forty years professor of Zoology and Anatomy there. His contributions to Natural Science were numerous and valuable.

Rt. Rev. THOMAS VOWLER SHORT, D.D., formerly Bishop of St. Asaph's, who died April 13, had been for some years a tutor of Christ Church, Oxford. He was an eminent scholar, ranking as a double first class at Oxford, where he took his degree.

In May died JOHANN KARSTEN VON HAUCH, a Danish

poet, scholar and professor, born at Frederikshald, May 12, 1790, educated at Soroe, and for many years professor of physics in the Academy of that city. In 1846 he was called to the chair of Scandinavian Literature at Kiel; in 1848 he was deprived of his professorship, but through the intervention of the Queen was provided with a home at Frederiksberg, and on the death of Oelenschlager was appointed professor of Aesthetics in the University of Copenhagen, which he retained till his death. He was regarded as the most eminent of the Danish poets.

ROBERT PRUTZ, Ph. D., who died at Stettin, June 21, in his 57th year, was an eminent poet, historian, dramatist and revolutionist, educated at Berlin, Breslau and Halle, and was professor of Literature and History at the University of Halle from 1849 to 1859, when his failing health compelled his resignation.

BENITO JUAREZ, the late President of Mexico, who died July 18, at the age of 70 years, was for ten years (1834-1844) Professor of Canonical Law in the Institute of Oaxaca.

The Danish Lutheran Bishop, NIKOLAS FREDERIK SEVERIN GRUNDTVIG, who died at Copenhagen Sept. 2d, at the age of 89 years, after many long and bitter conflicts, polemical, theological, and political, had been from 1822 to 1849 professor of History in the University of Copenhagen.

LUDWIG MARIA FEUERBACH, a German philosopher and atheist, who died at Hanan, Sept. 16, was more a lecturer and theorizer than a teacher, but did give instruction at the University of Erlangen as a tutor in 1828 and 1829.

JEAN HENRI MERLE D'AUBIGNE, D. D., who died at Geneva, Oct. 21, at the age of 78 years, theologian, historian and poet, had been professor of Church History in the Theological Seminary of Geneva since 1830.

JACQUES BABINET, a French academician and physicist, who died Oct. 24, in Paris, at the age of 78, was educated at the Lyceum Napoleon, the Polytechnic School, and the Military School at Metz, and soon turned his attention to teaching. From 1815 to 1825, he was professor of Mathe-

matics successively, at Fontenoy-le-Comte, Poitiers, and the College of St. Louis. From 1825 to 1828, he delivered his course of instruction on Meteorology at the Athenæum, and after teaching physical science in the different Colleges of Paris for ten years, succeeded Savary in 1838 in the College of France, and retained that professorship for many years, becoming a member of the Academy of Sciences in 1840, and subsequently associate astronomer at the Bureau of Longitudes.

In Oct. also died in Sicily, Signor PAOLO EMILIANI GIUDICI, aged 60 years. He was an orator, historian, *litterateur* and revolutionist. He was professor in the University of Pisa in 1849, and professor of Aesthetics in the Royal Academy of the Fine Arts in Florence from 1859 to 1862.

On the 28th Nov., Dr. JOHANN CHRISTIAN FELICE BAEHR, an eminent German philologist, died at Heidelberg, aged 74 years. He was born in Darmstadt, June 13, 1798, educated at the University of Heidelberg, and had been professor of Classical Literature in the University from 1821 to 1872. His scholarly edition of Herodotus and his other classical works form his best monument.

AN official "Report on the Losses sustained by the Public Libraries of Paris, during the Prussian Siege and the Commune," shows the latter is responsible for all the actual losses. The Library of the Louvre was totally destroyed; so, also, were the 120,000 volumes of the Hotel de Ville, especially rich in the history of Paris. There were also destroyed the minor libraries of the Council of State, the Court of Accounts and the Court of Appeals, with 50,000 volumes of jurisprudence; the Legion of Honor, the Society of Advocates, the Ministry of Finance and the Prefecture of Police—the latter library being rich in French newspapers.

Teacher, (to his pupils)—"Why should people celebrate Washington's birthday any more than mine?"

Pupil, (promptly)—"Because he never told a lie."

Teacher—"School's out."

GEOGRAPHICAL NOTES.

UNITED STATES.—Still not satisfied with the common methods of teaching geography! Could anything be more unreasonable! The *Maine Journal of Education* for February had two contributions on "Local Geography" and "Geographical Text-books." From the former we make some suggestive extracts:

"It is the testimony of all who have had much to do in examining teachers and schools in this State, that there is dense ignorance in local geography. One school supervisor, in his report last March, says, 'The teachers who come to me for examination are very deficient in local geography. The majority are unable to locate, even approximately, twenty-five per cent. of places as important as Liverpool.' Examinations of teachers which have been given by the writer, or concerning which he has positive knowledge, have given, among other similar results, the following: Halifax has been located in England, Berlin in Siberia, Glasgow in Turkey, Germany in Asia, or if in Europe, south or west of France, London south-east of New York, the Volga in Spain, and the Pyrenees in Scotland. These answers were given by those who were well posted in every other subject taught in our schools. This ignorance does not spring from a verbal unfamiliarity with the names of these places, for they have had them at their tongue's end for years."

"The number of towns in France and European Turkey, which are given in two of the geographies which are in use in the schools of this State, have been counted; one gives 113 in France and 60 in Turkey, the other 166 in France and 32 in Turkey. Is it any wonder that confusion is the result of the study of such maps for our children?"

The next writer arraigns "the mass of text-books published on geography" as not meeting "the wants of our common schools:"

"They contain too much matter. They are geographical reference books instead of school text-books. It may be asked 'What do they contain which might be omitted?' I answer, much; half, yes, two-thirds of the towns and rivers given on each map. The descriptive part of the book is often only a recapitulation of what is, or should be, covered by the map questions. The classification is not good. The pupils are told that the products of Ohio are corn, wheat and oats; those of Indiana, wheat, oats, and corn, and those of Illinois, oats, corn, and wheat. Why not group the States which produce

grain together, and also those which produce tobacco, cotton, etc.? This would save much trouble, and would be vastly easier for children to learn. The area and population of each State is given, and children are expected to commit these to memory. As if it were possible for little children, or even big children, to remember the square miles and number of people in every State and Territory in the Union! What absurdity! The chief towns are grouped together in the descriptive text. This is needless, as these should be learned from the map. The natural features of each State are minutely described. This also is unnecessary. If pupils have a general knowledge of the surface of a country as a whole, and a minute knowledge of their own and neighboring States (which should be learned from the teacher and not from the book), it is sufficient for all practical purposes."

—"A method of Teaching Geography," by Hon. E. E. White, editor of the *National Teacher*, is copied in the *Rhode Island Schoolmaster* for March. The oral or primary course recommended is substantially the same as that quoted in our February Notes. Mr. White, after remarking that "The Geography Question" has engaged the attention of American teachers for the past ten years, asks:

"What is the practical result of this discussion? To what extent has it actually changed the instruction of the schools? We have taken some pains to obtain information on this point, and are assured that encouraging progress has been made in several directions. Increased attention is given to oral instruction; less time is wasted on unimportant details, and in memorizing the descriptive text; and, here and there, a teacher is making the facts and laws of physical geography the basis of instruction. The discouraging fact is, that no one of these changes has as yet reached the majority of American schools. The great majority of our teachers are still 'going through' the geographies in the old way.

"One reason for this state of things is the very general impression that the adoption of more rational methods of teaching geography depends on the introduction of text-books embodying these methods. It is doubtless true that a suitable text-book is a valuable aid in teaching any branch of study, but no intelligent teacher need follow a wrong method because it is presented in the text-book used by his pupils, and especially is this true in teaching geography. The very highest success has been attained in connection with the least progressive text-books found in the schools of the country. Indeed all experience shows that a rational method of teaching geography is less dependent on a good text-book than is a poor method. The more stupid the method, the more essential is a good text-book."

—A writer in the *National Teacher* for March quotes some amusing extracts from a Rhyming Geography in vogue fifty years ago ("Poetic Description of the United States of America; by Victorianus Clark." Hartford, 1819.) It has the same kind of value that an old atlas of that date would have. The rhyming and singing method was revived thirty years later, as we happen to know, and as a species of mnemonics we would not say that it was wholly worthless. Here are some of Deacon Clark's stanzas:

Of Rhode Island :

"All Christians here support religion
By voluntary contribution;
For contracts have no binding force,
Made with the clergy, and of course
Reduced to very low condition

Are morals, virtue, and religion.
West of the Bay's a moral waste
Unknown t' improvement, science, taste;
The people there are dissolute,
Of every privilege destitute;" etc., etc.

Of Virginia :

"Whole counties here no house afford,
No altar sacred to the Lord;
For this state's laws make no provision
For the supporting of religion.

Of slavery, pride and indolence,
Have tainted and depraved their morals
And op'd the sluices to all evils;
Yet men of worth are sometimes found,
And men of genius here abound:
To wit, the patriot Washington,
With Jefferson and Madison,
Our worthy President Monroe,
And others but a grade below."

"Here are two classes, and no more,
The very rich and very poor,
On their plantations separate
The planters live in princely state.
Tho' here the base concomitants

Of Ohio :

"The town of Marietta stands
Upon Ohio's Western strand;
This village is becoming wealthy,
And is accounted very healthy;
But Gallipolis, a town
First peopled from old France, and found
Upon a bend of this great river,
Has suffered from the Yellow Fever.
The town of Chillicothe stands
Begirt with fine luxuriant lands,
Upon the banks of the Scioto,
One hundred miles from the Ohio.

(By law established but of late.)
In this delightful village stands
Endowed with many fertile lands.

* * * * *

"Fine springs every where abound,
Good mill-seats are rarely found.
Bears and deer are often seen,
Fish abound in every stream;
The woodlands boast the sugar-tree,
The chestnut, oak, and hickory,
And other kinds a double score,
With the majestic sycamore;
Near Marietta, one of these
Ancient Titan-planted trees,
By actual measurement was found
To be just sixty feet around."

* * * * *

"Athens as yet of puerile size
Up the fine stream Hockhocking lies;
The only college in this state,

BRITISH AMERICA.—The first volume of the Dominion census reports for 1871 has just been published, from which it appears that the total population is 3,485,761, divided as follows: Ontario, 1,620,851; Quebec, 1,191,516; New Brunswick, 285,594; Nova Scotia, 387,800. Nine cities have a population of over ten thousand, viz.: Montreal, 107,225;

Quebec, 59,699; Toronto, 56,092; Halifax, 29,582; St. John, 28,805; Hamilton, 26,716; Ottawa, 21,545; London, 15,826; Kingston, 12,407. These have all maintained their relative rank since the last census (1861), and have all increased the number of their inhabitants, except Quebec and Kingston, which, however, have meantime lost comparatively large garrisons, formerly included in the count. In twenty years, Montreal has more than doubled in population. In all Canada the number of the males exceeds that of the females by nearly 43,000, so that the Canadian emigration to Massachusetts is perhaps not an unmixed evil. Of Indians there are 23,035, and Africans 21,496; Germans and Dutch, upwards of 232,000, of whom about one-tenth only were born in Germany. Those of French origin are put down at 1,082,940, of whom only 2,899 were born in France. Four-fifths of the population are native-born. Coming now to religious faiths, and omitting Atheists, Deists, and Pagans (who are all gravely recorded), we find in the Dominion 534 Mormons; 1,115 Jews; 4,870 Universalists; 2,275 Unitarians; 7,345 Friends (a falling off, as usual); 1,492,029 Catholics; 567,091 Methodists; 544,998 Presbyterians; 494,049 adherents of the Church of England; and 239,343 Baptists. The Protestants are thus about half a million in excess of the Catholics. Such is a comprehensive summary of the people whose annexation to the United States seems not improbable at no very distant day.

EUROPE.—Taylor's "Words and Places," of which a third, compact edition has been published by Macmillan & Co., N. Y., and may be had for two dollars, is a work which we especially commend to committee-men who are desirous of contributing something to the public school which they visit, and can't afford to give a globe, an atlas, or a gazetteer. It ought to be in every school-room in which geography is taught. The teacher should be familiar with it, and the scholars could not fail to enjoy and profit by it. The following extracts will give some idea of the contents:

"The southern face of the Alps is bare and precipitous, and, from meteorological causes which are well understood, the district is peculiarly liable to sudden and violent falls of rain. The rivers of Lombardy are, in consequence, charged with an exceptional amount

of alluvial matter. The whole plain of the Po is gradually rising, so much so that at Modena the ruins of the Roman city are found forty feet beneath the surface of the ground. Hence at the embouchures of the Po and the Adige we might anticipate rapid changes in the coast-line; and this we find to be the case. We find a range of ancient dunes and sea-beaches stretching from Brandolo to Mesola. Ravenna, now four miles inland, stood on the coast two thousand years ago. One of the suburbs of Ravenna is called *Classe*, a corruption of *Classis*, the ancient name of the port, which was capable of giving shelter to 250 ships of war. *Classe* is now separated from the sea by a dense forest of stone-pines two miles in breadth. The Adriatic takes its name from the town of *Adria*, which was its chief port B. C. 200. *Atri*, the modern town upon the site, is now nearly twenty miles from the coast." (P. 242.)

"The tendency among the German nations is to develop the sibilants and gutturals; among the Romance nations to suppress those and develop the mutes and liquids. Thus, in the name of the river Atesis, how harsh is the German name—the *Etsch*; how soft and harmonious the Italian development of the same word—the *Adige*. Again we may compare the German *Lüttich* with the French *Liège*, or we may contrast the German change of Confluentes into *Coblentz* with the soft effect produced even in cases when the Italians have introduced sibilants, as in the change of Florentia into *Firenze*, or Placentia into *Piacenza*. But the best illustration of these phonetic tendencies will be to enumerate a few cases where the same root has been variously modified by different nations. Let us take the Latin word *forum*. The Forum Julii, in Southern France, has become *Fréjus*; and, in Northern Italy, the same name has been changed to *Friuli*. In the Emilia we find *Forlì* (Forum Livii), *Fossombrone* (Forum Sempronii), *Ferrara* (Forum Allieni), and *Fornovo* (Forum Novum). In Central Italy we have *Forcassi* (Forum Cassii), *Fiora* (Forum Aurelii), *Forfiumma* (Forum Flaminii), and *Forlimpopoli* (Forum Popilii). With these compare the German name *Klagenfurt* (Claudii forum), the Dutch *Voorbourg* (Forum Hadriani), the French *Feurs* (Forum Segusianorum), and the Sardinian *Fordongianus* (Forum Traiani)." (P. 262.)

ASIA.—"Ah Sin" has become proverbial through Mr. Bret Harte's characterization of him as the "heathen Chinese," and the following extracts from Medhurst's "Foreigner in Far Cathay" (New York: Scribner, Armstrong & Co.), as throwing a little light on his name, will perhaps not be unwelcome:

"Chinese surnames, which, as I have remarked in a former chapter, are but limited in number, are as a rule composed of but one character. Names are generally made up of two, and characters

having a felicitous meaning are always selected. The surname always precedes the names. For example, supposing a man's name to be *Kung*, 'Palace,' and his names *Pao Yeng*, 'Precious Recompense,' his card would indicate him as *Kung Paoyeng*, 'Palace Precious Recompense.' Another man's surname may be *Wang*, 'King,' and his name *Ta Leuh*, 'Great Six,' probably from his being a sixth child or son. He would be styled *Wang Taleuh*. In some provinces it is common amongst intimates to add the familiar prefix of *Ah* to the second character of the name: as, for example, the two persons just named would be severally called, *Ahyeng* and *Ahleuh*. And this will account for the numbers of *Akfoos*, *Ahchows*, *Ahlums*, etc., to be met with amongst the natives of Canton."

"Names of provinces, districts, cities, rivers, mountains, etc., derive their signification for the most part either from some characteristic of the locality or some legendary or family association connected with it. And it is seldom that any characters but those of a felicitous meaning are employed: *Quangtung* (anglicized into Canton) and *Quangsi* signify 'broad east' and 'broad west;' *Honan* means 'south of the rivers;' *Hupek*, 'north of the lakes;' *Shantung*, 'east of the hills;' *Hankow*, 'mouth (or port) of the Han;' *Shanghai*, 'ascending (or on) the sea;' *Pekin*, 'northern capital;' *Nankin*, 'southern capital;' *Newchwang*, 'bullock farms;' *Foochow*, 'happy district;' *Tientsin*, 'celestial harbor;' *Amoy*, 'summer gate;' *Chang Kea Khow*, 'the gate of the Chang family;' *Tien Shan hu*, 'lake of the celestial hills;' and so on."

From these names one obtains a small Chinese vocabulary: *Peh*, north; *nan*, south; *tung*, east; *si*, west. *Ho*, river; *hu*, lake; *kow*, embouchure; *tsin*, harbor; *hae*, sea. *Shan*, hill, etc.

Periodical Literature.—An article on the "Antarctic Regions" will be found in the *Cornhill Magazine* for March. *Every Saturday* for March 22: "A Brazilian Market at Sunrise."

Cartography.—An excellent map of the San Juan or Haro Archipelago, in Petermann's *Mittheilungen* for Jan. 30, shows the disputed boundary of British and American territory in those waters. A map of Malta, drawn on the same scale, is annexed to indicate the smallness of the land area involved in the late international controversy. The United States gains, and England loses, only about eight-fifths as much ground as is contained in the famous little island of the Mediterranean.

—Dr. George Schweinfurth, the celebrated traveler, will shortly bring out his new work, the result of three years' travel and adventure in Central Africa. The work will be issued simultaneously in English, French, Russian, German, and Italian. It will form two

volumes, and will be illustrated by about 130 woodcuts, from drawings by the author. The English publishers are Messrs. Low & Co. —*Athenæum*, March 8.

—The Bremen Society for the German exploration of the North Pole is about to publish, in Leipzig, as the result of the voyages of the *Germania* and *Hansa*, under the command of Capt. Karl Kolde-
wey, "The Second North Pole Exploration in the Years 1869-'70," in two volumes, profusely illustrated with woodcuts, chromolithographs, copper-plates, maps, etc. An English translation is in the press.—*Ibid*.

Photography.—How delightful would be a voyage half round the globe, stopping at will at the principal points of interest, and bringing home faithful sun-pictures of natural landscape, of famous cities, of the various races of men encountered. Starting at some port in the south of Europe,—say, Trieste—one might choose to sail to Algeria and Morocco, pausing in the straits of Gibraltar to view the mountain fortress; thence to the Canary Islands, for a glimpse of Teneriffe; thence to Lower Guinea; again on to Cape Town and the Cape of Good Hope. From here the course lies to Ceylon, touching at the Point de Galle; thence to Java and Sumatra, and northward to Singapore; next a visit to Bangkok and to Saigon, and then to the Chinese ports—Hongkon, Canton, and Shanghai. Still further north we may even get a sight of Corea and its singular people; and, crossing over to Japan, conclude our voyage at Nagasaki and Yedo. How charming would such an excursion be, yet how difficult, how impossible for most of us to make. It is, nevertheless, an account of the route pursued by Mr. Wilhelm Burger, photographer to the Austrian East Asiatic Expedition, whose stereoscopic views constitute one of the finest and most remarkable series in the stock of the Messrs. Anthony, at 591 Broadway. Any one who procures them may without discomfort or risk, almost without expense, accompany him at every step. For the benefit of those at a distance we shall now instance a few of these memoranda of travel.

Trieste from the Lighthouse (No. 8) shows the amphitheatrical construction and mountainous environs of this most beautiful city. Steamers which ply the Adriatic and perhaps traverse the Suez Canal lie directly before us, moored to piers of solid granite which put to blush the flimsy and rotten wharves of our great metropolis. *The Port of Algiers* (No. 16) with its fortified mole and artificial basin, shows one also a portion of the white-gleaming city and the broad expanse of the Mediterranean. The view of *Gibraltar from San Roque* (No. 50), looking southward, shows to perfection the cathedral-like or lion-like form of this historic rock, including the Bay of Alge-ciras. Mr. Burger's view of *Cape Town* (No. 81) is admirably chosen to display the curious outline of Table Mountain—a background such as probably no other city in the world can boast of, not except-

ing Trebizond. *The Chinese Quarter in Singapore* (Singapore, the lion city—No. 88) fairly represents the general appearance of this enterprising entrepôt, which is remarkable less for its buildings than for its rapid growth since the English founded it in 1819. The Chinese population here constitutes 50,000 out of the total 80,000, has nearly all the trade under its control, and is accumulating great fortunes. From Bangkok we bring away a single specimen of the peculiar Siamese architecture—the *Royal Tombs* (No. 328), in front of which stand a colossal stone Gog and Magog crowned with stove-pipe hats! In No. 186, *View of Hongkong*, overlooking the roadstead, we have all the elements which go to make up a desirable stereoscopic view. The same may be said, in its way, of No. 166,—a group of five of the Chinese inhabitants playing a game of chance; expression, attitude, costume and all are admirable. Sailing up the river we reach *Canton*, No. 188, in whose waters we notice numerous gondola-like craft driven by Chinese sailors. Omitting any general view of Shanghai, we select No. 174—a colossal bronze statue in the neighborhood, which we judge to be that of Buddha. At least it bears a striking resemblance to the Daibutz at Kamakura in Japan, as figured in Pumphelly's "Across America and Asia," and his description "it represents Buddha sitting, in the Oriental manner, on a lotus," applies exactly to the Shanghai image, which in mere workmanship appears to be superior to the other. There is nothing to determine the scale, however. No. 175 is a graceful example of the pagoda, also near Shanghai. The low buildings adjacent to it show how conformable its architecture is to the soil and the native genius. We take leave of the Flowery Kingdom with No. 160, an amusing portrait of "Young China" and his bare-footed maid attendant. No. 304 is a full length portrait of one of the singular but by no means contemptible race of the Coreans. Ethnography may also be studied in No. 249—*Academicians of Nagasaki*—and No. 239, *Officers*, of the same city; two groups embracing altogether twenty-seven figures, sitting and standing, and fairly typical of the race which is now taking on the most sudden and profound revolution which history records, and with which we are destined to have a great and growing intimacy. Descendants of these very men, whose faces now recall the American Indian, now the negro, and again the full-blooded European, may yet be governors of our States, representatives and Senators at Washington, and ——— what the imagination pleases! Let us study well the adults, but especially let us not neglect the children. Here, in No. 243, is a kneeling row of seven of them, all little ladies except one; curious little almon-eyed mortals, staring and blinking at the camera, but never dropping their fans or losing their lady-like propriety. What charming women they may grow up to is shown in No. 250, a lady of Nagasaki, whom the dress-maker's art was not needed to make comely, but who is draped with the utmost taste. Nagasaki itself is pictured for us in No. 275—perhaps the loveliest

view of all we have mentioned: mountains in the rear, the bay below, and the whole set in a frame made by a Japanese pine on the left and an unfamiliar but very graceful tree on the right. We pass to Yedo, paying our respects to a lady with the guitar of the country (No. 320,) she too being comely and well dressed. The "muscular heathen" is shown to advantage in No. 316—*Japanese "Cudi"* (firemen), with their preposterously small engine and preposterously large bucket-tubs; and in No. 260, representing a heavy Japanese sedan-chair or palanquin, borne by two stalwart coolies.

Not to slight wholly our own continent, let us refer generally to the fine Canadian views of Mr. W. Notman, and instance that of Ottawa and its south timber slide (or sluice), No. 22,717; that looking across the Chaudière Falls of the Ottawa River, No. 22,712; and a fine perspective view of the Victoria Bridge across the St. Lawrence at Montreal, No. 61,063.

THE DEPARTMENT OF EDUCATION IN JAPAN.

THE Supreme Council of Japan is the Dai Jo Kuan, and beneath this are nine Departments. Each of these concerns itself with special governmental affairs, and conducts the great enterprises which the nation has undertaken. Under the dynasty of the Shō-Guns, these "Boards," as they were then called, were scarcely more than nominal organizations, and one or two of them had hopelessly fossilized.

After the civil war and the accession of the Mikado to full power, a new life animated each department, and the spirit of change and reform seemed to possess every officer, from the Minister to the petty official.

Japan, as she has been since her great unifier, Iyeyasū, left her, seems an orientally exaggerated version of the legend of Thorn-rose. The nation and the government had congealed to political immovability. A sleep of two centuries and a half fell upon the Japanese, and the apparition of an American fleet of *steamers* in the bay of Yedo, at the very doors of the capital, was like the first knock of the delivering prince at the gate of Thorn-rose's castle. Then followed the decay of the Shō-gun's power, the Daimios'

refusal to come to Yedo, the civil war, and the accession of the Mikado to full power. The youngest scion of the ancient line of Emperors now sits on his throne in Yedo, having dispatched an embassy to traverse the globe. From Commodore Perry at Kanagawa to Iwakura in Washington, there was a chain of events as romantic, and far more wonderful, than the awakening of the Sleeping Beauty and the people of her enchanted castle.

The nine departments in Japan are : 1st, of War ; 2d, of the Navy ; 3d, of the Treasury ; 4th, of the Settlement and Reclaiming of Waste Lands ; 5th, of Public Works ; 6th, of Justice ; 7th, of Religion ; 8th, of Education ; 9th, of Foreign Affairs. It was the Kai Takū Shi, or Department of Settlement, that engaged the American Scientific Commission, now partly in Yedo, and partly in Yezo, headed by Gen. Capron, and Prof. Antisell. It was the War Department that secured the services of the French Military Commission of sixteen of the best French officers for the instruction of the native soldiery. The Department of Public Works employ nearly two hundred foreigners, mostly Englishmen, in the various enterprises of Railways, Light-houses, Telegraphs, Public Architecture, etc. The Department of War always presents, and succeeds in getting, the fattest budget ; next in order comes that of Public Works ; and next that of the Navy ; while the Department of Religion comes last, being little more than a shadow. Between each of the departments a spirit of the greatest jealousy and emulation exists. It seems to be the chief idea of each Kiyo, or Minister, to obtain as much power, and to base that power upon as much financial certainty as possible. Thus, although jobbery and corruption flourish, the national enterprises move on as fast as the possibilities of the situation will allow. Some enthusiastic reformers insist that the main, and almost the only business of the Government, is the education of the people. His Excellency Oki sama, the present efficient Minister of Education, appears to be such an enthusiast. He is a native of the province of Hizen, who, after the civil war, was appointed Kiyo or Minister of the Mim Bu Sho, a department which formerly superintended the census, boundaries, buildings, repairs, bridges, agriculture, etc. ; in short, the Department

of the Interior. Under the Shōgunate, no Department of Education existed. The Dai Jo Kuan, or Imperial Council, then authorized Oki sama to change the vowel in the first word, and gave him power to remodel the old organization, and to place the new Mom Bu Sho upon nearly the same footing as the Department of Public Instruction in France. It is mainly after the French system that the entire educational system of Japan is now modelled. The reason for this, is chiefly, because the system of France is so simple, i. e., so centralized, uniform and graded. Indeed, it is only by centreing everything in Yedo that Japan has thus far been able to achieve so promptly her mighty reforms. It is only by the power of centralized intelligence and force that New Japan will be able to overcome the inertia of the masses in the country, and the conservatism of the interior towns.

One of the multitude of unsettled problems in Japan is, how to blend central power and local government so as to secure harmony and peace. That these are not yet secured is evident from the not infrequent insurrections in various parts of the empire.

The most striking trait in the character of a 19th century Japanese is his utter disregard of the past, his contempt for things Japanese, his love of things new and foreign, and his desire to cut away the bridges over which he has passed. No sooner was the New Department of Education clothed with full powers; than the old Chinese College in Yedo,—the fountain of Japan's previous culture, its Academy,—was closed, and the study of Chinese was in every way discouraged. The school of foreign languages and science, called the Imperial College in Yedo, was purged of all students who were learning merely to translate foreign languages, and only those were retained who would learn to read, write, and speak the language they were studying. A corps of translators had long been a useful branch of the Mom Bu Sho, and had translated such books as Chambers' Information for the People, Wayland's Moral Science, Wheaton's International Law, and a score of other important works. But this was work done in Japanese. Since we began the present writing, we have learned that this work has ceased and the corps has been abolished.

From various cities in the interior we learn that the Chinese schools have been practically "disestablished," and in some cases, closed; while those schools in which foreign languages are taught have been infused with new pecuniary and scholastic life.

During the past ten months, the time and energies of the Minister and his co-workers have been taxed to elaborate a scheme for the education of the entire people. This scheme includes all between a school in which the i-ro-ha (Japanese A B C) is taught, to a full-grown university—the growth of years, decades or centuries. The circular of the Mom Bu Sho now lies before us, and from it we get our facts. This gigantic prospectus first maps out the Empire into eight grand divisions, in each of which there is to be a university. It is expected that, in course of time, there will be in each university the regular faculties of law, medicine, philosophy, science and theology. (?) The idea of institutions like, and equal to Harvard and Yale, is what the Japanese aspire to. In each grand division there are to be thirty-two High Schools or Academies (Fr. Académie, Gr. Gymnasium.) These are to be schools of foreign languages and science; all the instruction being in English, French or German. After the Academies, there are to be in each grand division 210 grammar schools, in the higher classes of which foreign languages are to be begun. Beneath these are the village, or public primary schools, which are for boys and girls, from the age of six to fourteen. These are to number in all 53,760. In these primary schools all the instruction will be in Japanese, some of the Chinese classics will be read, and the most important Chinese characters will be taught. We however may live to see the Japanese language transliterated, and the study of hira-kana, kata-kana and Chinese utterly abolished. The basis of education is to be on the foreign methods, and translated text-books, mostly American, are to be used.

To supply native teachers, who can teach in Japanese, after the foreign style, a "normal" or training school has already been opened in Yedo, under the superintendence of a skilled instructor from San Francisco. It is at present attended by twenty-five young men.

In the academies the pupils pay \$5 per month for tuition, and in the universities they will pay \$7.50. From the academies one hundred and fifty picked students are to be sent abroad yearly, and will be supported on a stipend of \$1,000 per annum. From the universities thirty will be annually chosen to go abroad and will receive \$1,800 yearly. Of the students in the academies, fifteen hundred are to be rewarded with scholarships; that is, they will be supported by the government.

This paper-scheme looks grand. It sounds large and broad. It seems at first-sight preposterous, yet it has been elaborated after nearly a year of hard work and careful inquiry into details. The Japanese do not expect to carry it out and complete it in a day, or in a year. It is the work of the future. Yet even now the Minister and his co-laborers are straining every nerve to make the paper schemes palpable and fruitful facts. They are beginning to train teachers, to organize village schools, to canvass the districts which as yet have no instruction. They are beginning from the bottom. They will be helped vastly when the small army of their educated young men return home from Europe and America, bringing their spoils with them.

We have no room in this paper to speak of the actual work accomplished. Suffice it to say, that it is more than encouraging. They are now laying the foundations of the universities in their academies. They desire to have great universities, and they know that these are not the growth of a day, yet they have planted the seed, and have faith in the harvest.

YEDO, Feb. 20th, 1873.

WILLIAM E. GRIFFIS.

A SCHOOLMASTER gave out one morning as a reading-lesson to his first class, that portion of the "Merchant of Venice" in which the "pound of flesh" scene occurs. The reading finished, he asked the class what Shylock meant when he said, "My deeds upon my head." "Well," said the tallest boy, "I don't know unless he carried his papers in his hat."

A DONKEY RIDE IN CAIRO.

WE must by all means take a donkey ride, and in no place in the Orient can we do it in better style than in the city of Cairo. Not being accustomed to this mode of conveyance, and moreover being slightly afflicted with modesty, we determined to steal away from our company about sun-down, and be initiated alone. The donkey boys are watching for us. We try to seem indifferent. But they know by a sort of instinct that in our heart we are cogitating the important subject of taking a ride. So they make for us, each dragging his donkey with him. The little animals are not much larger than Newfoundland dogs, and they are nicely caparisoned, each with a comfortable saddle and quite an ornamental bridle. Like their masters they are exceedingly lively, and, one following another, we are soon completely surrounded by donkeys, and donkey boys. The head of one animal is thrust against us. The tail of another comes in close proximity. The saddle of a third, as it brushes past, almost carries the buttons of our coat with it. And while thus a dozen of these creatures are flying around us, the boys who have them in charge, in one hideous Arabic concert set up a yell for our patronage.

We begin to wish we had never seen or thought of a donkey. Indeed, hard as it is to confess, we all but think ourselves a poor ass. To prove we are not, we indignantly order the whole troop away, and tearing ourselves from the crowd, pursue our course to the hotel.

But in a few moments, glancing around us, we see a nice looking donkey near by, and he and his driver are alone. Now is our chance. Speedily we mount. This is just what we should have done in the first place. The Arabs are quick, and if you do not want to be beleaguered with a crowd of assistants in this country you must at once choose your man or your boy. As soon as you signify to one you have selected him the others will leave you. But as long as you are undecided they all regard you as fair game, and rush for you, and the longer you parley the greater will be the number of your friends, and the louder the din created by their offers to serve you.

Well, here we are at last on our donkey. To mount him was very easy. Our legs we feel are very imposing in their appearance. They almost touch the ground. How we would like to have our likeness now taken for the benefit of our friends at home! Away we go. Our donkey has a pleasant little canter, but very soon is tired of this gait, and comes down to a walk. He does not understand English, and so it is useless for us to talk to him. But this is quite unnecessary. The donkey boy is just behind. He never leaves the beast he has in charge, but always follows him closely. And now he punches him with a stick, a short stiff stick, which he carries in his hand for the purpose. The effect is magical and instantaneous. The donkey gives a sudden spring, and the rider is uncertain for a moment whether he will keep the saddle or go over the animal's tail. He succeeds in retaining his position. Presently however the donkey, wearied with his extraordinary effort, drops with a jerk from a run to a walk, and then the traveler feels a strong inclination to pitch over the head of the beast. These feats of the donkey and his driver are expected every minute or two, and at length our fear yields to recklessness, and we regard our ride as the funniest thing we ever experienced.

What a pity all the children we know in New York and elsewhere could not be present to see us perform! We are sure no circus rider ever seemed half so attractive, and as for John Gilpin, his ride was no circumstance in point of novelty to ours.

Wherever we go in Egypt or Syria we see these little donkeys. Nearly every native man has one. Sometimes he leads him, sometimes rides him; sometimes the animal follows like a dog. Occasionally a man and his wife are both mounted upon one of these puny creatures. It matters not; the patient animal bears the load, and never turns around like Balaam's ass to rebuke his master. We have many asses in our country, but none so useful as the Oriental donkey.

A NEW YORK TEACHER ABROAD.

O S A K A .

I N a recent number of a Japanese newspaper the advantages of education are very forcibly dwelt upon, and as proofs of the beneficial influence it has upon the morality of a nation, certain customs of the people of "North America" are cited. There, it is stated, the inhabitants never fasten their house-doors at night, and if one of them sees any valuable lying in the roadway he goes on his way, leaving it untouched, for no one in those happy regions coveteth his neighbor's ox, nor his wife, nor his ass, nor anything that is his. And the secret of this virtuous conduct is that that enlightened land is blessed with abundance of schools whereat its children are taught "to love virtue for virtue's sake." In conclusion, the writer indulges in the confident hope that, now that Osaka has had its school accommodation so largely increased, its inhabitants will learn to become as free from covetousness as those of the country whose precise position in the Western hemisphere is so indefinitely pointed out.

Granted the truth of the premises—that a plentiful supply of schools will in due time convert the rising generation of this city into a community as scrupulously honest as that of the mysterious country before referred to—and we ought to congratulate the good people of Osaka at the approach of so devoutly to be wished for a consummation. For, in truth, I doubt much whether any city ever saw its school accommodation increased at so marvellous a rate as Osaka has witnessed during the last four months. The view from a *hinomi* or fire-look-out in the centre of the city is remarkable; in every direction the belfries, complete or in process of erection, of the new school houses may be seen. Most of these schools are calculated to accommodate 750 pupils. To each school three native teachers are to be appointed, one for writing, another for reading, and the third for arithmetic. The salary to be paid to these teachers is fifteen dollars per month.

Some of the new district schools are very pretentious looking buildings, all having more or less of a foreign aspect, owing to their possessing glass windows. Some of them

are brightly, not to say gaudily painted, green being evidently the favorite color for the wood work; one I saw had its doors painted red, white, green, yellow, and two or three other colors—but that was an exception—generally two or three colors are deemed sufficiently lively. Most of the school houses are two and some are three stories high. In the cupolas, with which nearly all of them are surmounted, a large bell is to be hung, on which the hours are to be struck.—*Hiogo News Correspondent.*

ANIMALS NOT GOVERNED SOLELY BY INSTINCT.

WHAT is instinct? It is "the faculty of performing complex acts, absolutely without instruction or previously-acquired knowledge." Instinct, then, would enable animals to perform spontaneously acts which, in the case of man, presuppose ratiocination, a logical train of thought. But, when we test the observed facts which are usually put forward to prove the power of instinct, it is found that they are seldom conclusive. It was on such grounds that the song of birds was taken to be innate, albeit a very ready experiment would have shown that it comes from the education they receive. During the last century Barrington brought up some linnets, taken from the nest, in company with larks of sundry varieties, and found that every one of his linnets adopted completely the song of the master set over him, so that now these linnets—larks by naturalization—formed a company apart when placed among birds of their own species. Even the nightingale, whose native song is so sweet, exhibits, under domestication, a considerable readiness to imitate other singing-birds. The song of the bird is, therefore, determined by its education, and the same thing must be true as to nest-building. A bird brought up in a cage does not construct the nest peculiar to its species. In vain will you supply all the necessary materials: the bird will employ them without skill, and will oftentimes even renounce all purpose of building any thing like a nest. Does not this well-known fact prove that, instead of being guided

by instinct, the bird *learns* how to construct its nest, just as man learns how to build a house?"—*Popular Science Monthly* for February.

SITTING, OR SETTING?

I CLIP the following from a recent number of one of our leading agricultural journals: "ICE FOR SITTING HENS.—J. E. Smith, Durham, N. H., states that he has cured an obstinate hen of a desire for 'setting' by putting several lumps of ice in her nest." Evidently the word *setting* is that used by Mr. Smith, while the word of the editor's choice is *sitting*. Common people generally agree with the former in saying "A *setting* hen." "The hen wants to *set*," etc.; while editors and correspondents of agricultural papers who affect correctness of speech use *sitting* and *sit* instead. We have two words in English that are spelt and pronounced *set*; the one a transitive, the other an intransitive verb. The general meaning of the former is to place, to locate, to fix; that of the latter, to settle down, to become fixed, as when we speak of "The *setting* sun," or say "The stars rise and *set*," "The dog *sets* well." It is in this sense of settling herself down, seeking a state of repose and fixedness, that the word is properly used in reference to a hen that manifests a desire to continue on her nest. A sitting hen is not necessarily a setting hen. The former is one that for the time is in a sitting posture, and may not be a setting hen at all. The latter is one that, having ceased to lay, is inclined to remain or does remain for several days or weeks longer on her nest, leaving it only at long intervals for a few moments at a time. When she is observed and spoken of as a setting hen, instead of sitting, she may be walking about the yard, clucking, and picking up something to eat. The distinction is an old and just one, and should not be destroyed. It is perfectly proper, of course, to speak of hens as "sitting on eggs," as of their "sitting on a perch." But, in speaking of their character or habit as incubators, we should say "setting hens," not "sitting hens;" "non-setters," not "non-sitters." Also, a "setting," not a "sitting" of eggs.

S. W. W.

SUMMER SCHOOL OF NATURAL HISTORY.

MR. JOHN ANDERSON has given his summer residence, Penikese Island, to Prof. Agassiz as a permanent location for the Summer School of Natural History, which he intends to establish in connection with the Museum of Comparative Zoölogy at Cambridge. Penikese is one of the Elizabeth group situated at the entrance of Buzzard's Bay, and is especially suited for such a school, being secluded and yet easy of access. Its area is about 100 acres of very fertile land, estimated to be worth \$100,000. In addition to this Mr. Anderson has given \$50,000 in cash, as a nucleus for an endowment fund to be devoted to the support of the school. The Museum has already received from the State of Massachusetts \$215,000, and will probably be given \$50,000 more by the Legislature during its present session. The Summer School will open in July with about 50 pupils of both sexes, who must be teachers or persons fitting themselves for such. No charge will be made for tuition. Every one who is interested in the studies and investigations of Prof. Agassiz must be gratified at this munificent gift by Mr. Anderson, not only as increasing facilities for scientific investigation, but as being also a well merited recognition of Prof. Agassiz's unselfish labors.

PIGEON ENGLISH.

“**P**IDGIN”—or, as it is sometimes spelled, “pigeon”—English originated at Canton during the early days of the English relations with China, when the East India Company monopolized the trade with the Hong merchants. In their intercourse neither took the trouble to learn the language of the other properly, but confined their conversation to the fewest number of English and Chinese words necessary for bargaining and dealing in their merchandise. Hence the greater portion of this *patois* is made up of words used in commerce, and its incongruous appellation is a corruption of the word “business.” At first, John Chinaman found this a difficult word to pronounce, rarely making a nearer approach than “bidjinish.” In time he softened it

down to "pidgin," which is now universally used by natives and foreigners, so that the title of this paper means literally "Business" English.

The following dialogue between a British resident at Shanghai and his personal servant, or "boy," as he is termed, will give the reader some idea of the incongruous manner in which English is distorted in defiance of Lindley Murray's grammar. The master, seated at his table, has rung the bell, and his servant enters.

PIGEON ENGLISH.

ENGLISH PROPER.

- BOY. You makee ling? Did you ring, sir?
 MAS. Yes; sendee catchee one Yes; send for a tailor.
 piecee tailor-man.
 BOY. Just now hab got bottom side. He is below at present.
 MAS. Showee he come top side. Tell him to come up.
 Exit boy, and re-enter with tailor.
- MAS. You belong tailor-man? Are you a tailor?
 TAI. Es, sah, my belong tailor- Yes, sir; I am a tailor.
 man.
 MAS. Belong what name? What is your name?
 TAI. Any man callee my Stultz. They call me Stultz.
 MAS. Foreigners talkee so fash- The foreigners call you so, but
 ion, how fashion that Chinaman what is your real Chinese name?
 talkee?
 TAI. Po-hing. Po-hing.
 MAS. My boy makee pay you My boy will show you what I want
 what thing my makee wanchee: done. You had better go down
 more better you go bottom side stairs, and he will show you the
 askée he. He makee pay you article.
 what thing.
 BOY. What thing you wanchee? What do you want?
 MAS. Showee he makee mend Tell him to mend that very old
 that more olo piecee coat, and coat; and if he can clean it, so
 spose he can makee clean my much the better.
 thinkée more better.
 BOY. Just now teeftin hab leddy. Luncheon is ready.
 MAS. Belong what time? Why, what time is it?
 BOY. Wanchee one halp belong It wants half an hour to two o'-
 catchee that two. clock.
 MAS. What thing hab got? What have you?
 BOY. Feesantee, colo loso beefo, Pheasant, cold roast beef, curry.
 cully.
 MAS. I go chop chop; pay he I'll go directly; tell them all not
 allo man no makee wait. to wait.—*To-Day.*

CORRESPONDENCE.

TAHLEQUAH, C. N., *March 8, 1873.*

MR. EDITOR:—I have the honor to make the following statistical report of the Educational Department of the Cherokee Nation:

Number inhabitants.....	15,529
Public Schools.....	60
Orphan Asylum	1
Amount invested.....	\$117,000
for the benefit of this Institution.	

We have \$75,000 invested with the U. S. Government to be used for the education of the indigent Cherokee children in addition to our present school fund. \$100,000 to be used for the deaf, dumb, blind and insane. One High School for the females. This will enable you to insert something in favor of the Cherokees.

Respectfully yours,

S. S. STEPHENS.

EDUCATIONAL INTELLIGENCE.

DISTRICT OF COLUMBIA.—WASHINGTON.—The Committee on the Annual Report appeal to Congress for an allowance from the treasury, and it seems to us that the request is reasonable. Public lands are granted with no sparing hand to the schools of the States, but the seat of government is neglected. This is the more to be deplored, because foreigners desiring to study our common school system naturally seek to find it in perfection at the capital. Notwithstanding the disadvantages under which the schools of the District of Columbia labor, they show commendable progress. The white school population, those between the ages of six and seventeen years, numbers 17,403, and of these 14,468 attend school. 138 teachers are employed, and during the past year \$166,083.08 has been expended for school purposes.

KANSAS.—Number of teachers employed 3,795. The average monthly salary of gentlemen is \$40.20, while ladies receive only \$31.50; and yet the latter undoubtedly do as thorough work as the former. The average time school has been taught is 5.4 months. \$3,124,390.09 is the estimated value of school property in the State. The year closes with a surplus in the treasury of \$220,669.90.

KENTUCKY.—There has been an evident increase of educational activity during the last year. Of the 5,381 schools in the Commonwealth, 5,308 have been taught. The total number of pupil children reported is 416,763—an increase of 10,923.

Many more Teachers' Institutes have been held than ever before. General Institutes were held in each of the Congressional Districts—several of which were largely attended, and abounded in profit to those present; and the annual meeting of the State Teachers' Association was of unusual interest. The reports of the Commissioners are cheering. The schools of Kentucky during the year ending June 30th, 1872, have made gratifying progress.

An unprecedented number of the schools this year were half or entirely taught out by the 10th of January. This created such a "run" upon the Treasury, that the school exchequer became exhausted, and numbers of matured claims had to lie over until the sheriffs should reinforce the depleted Treasury. The law for the collection of taxes allows the sheriffs until the first day of April to pay the revenue, general and school, into the Treasury, while the school laws make the 10th of January the day for disbursing the larger amount for school purposes. Certainly, there is lack of fiscal harmony in these two provisions, and some plan should be adopted to prevent the discord and discontent occasioned thereby. Suspension of payment is demoralizing to any institution. It creates distrust, which the ignorant too often lay upon the shoulders of innocent officials.* It is productive of embarrassment to a class of men who have reposed implicit confidence in the State, and faithfully worked in the public interest.

The State Teachers' Association was held in Frankfort August 12th to 16th, inclusive, and was attended by many

of the most accomplished educators in the State. The exercises were of a higher character than formerly. It is to be regretted that the Association has no means for publishing its minutes. Many of the papers read and lectures delivered before that body would prove exceedingly profitable if they could be given wide circulation.

MINNESOTA.—There has been no radical change in the work of the schools within the past year. The present system, as yet imperfectly developed, owing mainly to the youth of the State, is gradually unfolding itself, and as more tangible results follow, errors are corrected, improvements made, and a better confidence established.

Whole number of persons in the State between 5 and 21 years of age in 1871.....	168,745
Whole number of persons in the State between 5 and 21 years of age in 1872.....	180,020
Increase for the year.....	11,275
Whole number of different persons attending school in 1871..	113,983
Whole number of different persons attending school in 1872..	120,352
Increase for the year.....	6,369
Whole number not attending school in 1871.....	53,480
Whole number not attending school in 1872.....	59,668
Increase for the year.....	6,188

NEW YORK.—NEW YORK CITY.—The New York Board of Public Instruction held its last meeting on Wednesday, April 2d. After the regular business had been disposed of, resolutions of thanks to the President, Dr. Holland, and to other members of the Board, were adopted. In closing, Dr. Holland said :

"Before we separate, I have a few words to say. I have received from you, gentlemen, since I have been associated with you in the labors of this Board, nothing but the utmost kindness and courtesy, and for these, as well as for this latest expression of kindness to me, I return my hearty thanks. I am sure that all of us will go out feeling that, so far as we have known, we have done our duty, and done it faithfully. We have been restricted for money and restricted in the time we could devote to our work. Perhaps we have made some mistakes—indeed, it would be strange if we had not—but those who are to come after us can make more and worse mistakes, and still be entitled to the thanks and gratitude of the citizens of New York.

"I welcome them to their work, and I bid you, gentlemen, a very hearty—nay, a brotherly—farewell. [Applause.]"

The Board then adjourned *sine die*.

The members of the new Board of Education met in the Mayor's Office at noon on Wednesday the 2d inst., and drew for long and short terms, with the following result :

Jacob D. Vermilye.....	1875	Eugene Kelly.....	1874
J. Crosby Brown.....	1875	H. P. West.....	1875
Robert Hoe.....	1874	R. A. Whitthaus ...	1875
James W. Farr.....	1874	A. J. Mathewson.....	1874
William Dowd.....	1876	S. J. Patterson.....	1876
Albert Klamroth.....	1874	James M. Halsted.....	1874
Joseph Seligman.....	1876	C. V. Lewis.....	1876
Wm. H. Neilson.....	1875	David Wetmore.....	1875
Albon P. Man.....	1876	R. W. Townsend.....	1876
R. G. Beardslee.....	1874	Edward O. Jenkins.....	1876
James Cushing, Jr.....	1875		

It is probable that Mr. Neilson will be elected President of the new Board, and Mr. F. B. Wagner, Clerk.

TROY.—The students at the Rensselaer Polytechnic Institute number 175, of whom twenty-four will graduate this year. This college increases yearly in prosperity, but as yet it has only two buildings. The Main Building is a substantial and imposing structure, 115 feet in length, fifty feet in width, and four stories in height. It contains full suites of Recitation, Lecture, and Drawing Rooms, the Cabinets of Natural History and Metallurgy, the Library, and the Quarters for the Janitor. The rooms are spacious, conveniently arranged, and well lighted and ventilated.

The Winslow Laboratory is a beautiful structure, sixty feet in length, forty feet in width, and three stories in height. It was thus named in honor of John F. Winslow, Esq., of Poughkeepsie, N. Y., the former President of the Institute. The first story contains the Metallurgical Laboratory. The second and third stories contain the Chemical Laboratory and Lecture Room, both of which are fitted up in the most approved manner for complete Courses in General and Analytical Chemistry.

The site selected for the Institute Buildings, on the eastern slope of the city, at the head of Broadway, combines the advantages of a commanding position, and quiet surroundings, with great convenience of access.

UTICA.—The city now owns sixteen substantial brick school-houses, all in the main in good repair ; and each surrounded by ample play-grounds, well fenced, shaded and supplied with appropriate outbuildings. The total value of the school-houses and sites is \$236,820.00, and total value of all school property owned by the city is \$303,564.82, being an increase of \$182,564.82 during the past five years.

The total amount of money expended for school purposes during the school year ending October 1st, 1872, was \$53,726.41.

The number of pupils enrolled during the past year was 4,262, showing an increase of 786 in five years. The per cent. of daily attendance of the whole number enrolled was $64\frac{1}{4}$. The per cent. of the number belonging, 95. The number of teachers employed, including those in the Evening School, was 75. The number of cases of tardiness during the year was 92,243, being 329 less than last year, yet still quite too large. Only forty-one suspensions occurred during the past year—a decrease of over one-half on the number reported the previous year, with a corresponding increase in the good order of the several schools.

OHIO.—CINCINNATI.—The Wesleyan College was founded in 1842, and continued in successful operation until 1866, at which time three hundred and sixty-five young women had received its honors at graduation. The new structure was not made ready for use until September 30, 1868, at which time the College reopened. For the four years since the reopening, an average of two hundred and thirty pupils have been in attendance each year.

RHODE ISLAND.—In this State, as in almost every other, the question of compulsory education is receiving increased attention. Among superintendents the opinion is general, that there should be some legislation to compel every child to attend school. In Rhode Island the number of absentees amounts to 4,200. The whole number of population between the ages of five and fifteen years, is 42,000. The average attendance at Winter schools was 28,702, while at Summer schools it was only 21,805. The total receipts during the past year were \$496,906.41, and the expenditures

amounted to \$465,623.63. The first year's history of the State Normal School has been one of successful labor, and has clearly proved the wisdom of its establishment. At the opening of the school in September, 1871, the number of applicants for admission was larger than the best accommodations, then furnished, could supply; and at the commencement of the second school year, the Board have found it necessary to enlarge the sitting capacity of the school, to receive the large class which sought admission. This gives cause for congratulation, from the fact that the number which seek for Normal instruction is undiminished, and also from the fact that such confidence has already been established in the public mind, with reference to the excellent working of the school.

VERMONT.—Number of persons between the ages of five and fifteen years, 53,714. Number of school-houses 2,402. Number of male teachers 684, of females 3,467. Very full statistics are given in the last report. We learn for example that 211 districts own "Webster's Unabridged," 293 own globes, 217 school-houses have clocks, while only 75 are provided with thermometers. These statistics are for 1871, the report being biennial. In '72 the number of children between five and fifteen years of age had increased to 59,999. Number of common schools 2,503; an increase of 101. There is a decrease of 13 in the number of male teachers, and an increase of 77 female teachers. In '72 1,313 teachers "boarded around," a decrease of 20 since the previous year. In the matter of dictionaries and thermometers there is a decided falling off. \$85,724.99 were expended for new school buildings in '72, and the estimated value of the school property is \$1,265,387.

WISCONSIN.—The total population between the ages of four and twenty years is 423,717. Of these 270,292 attended public schools, and 22,051 were cared for in private institutions. The large number of absentees in this State, 131,374, is partly accounted for by the wide range of the legal school age, from four to twenty years. In cities the average wages of male teachers have decreased from \$1,053 to \$982, while those of female teachers have increased from

\$367 to \$376. There is a growing disposition to retain those ladies who give satisfaction in the schools, and to advance their wages with increase of experience. The number of good school-houses increases every year.

CURRENT PUBLICATIONS.

THE ADDRESSES AND JOURNAL OF PROCEEDINGS OF THE NATIONAL EDUCATIONAL ASSOCIATION, 1872, is a volume which will be heartily welcomed by teachers and those interested in education. The subjects, which cover a wide range, were assigned to persons who were fitted by previous study or experience to discuss them intelligently, and as teachers, better than any others, know the defects and needs of our school system, the questions selected were practical ones and the speeches on them were to the point. Where so much is good it may seem invidious to particularize, but we would like to call attention to the paper on Compulsory School Attendance, by Hon. Newton Bateman, of Illinois. He remarks very justly that a certain degree of odium attaches to the question because of the form under which it is expressed, "Compulsory Education," as if the laws were to be directed against children, while the fact is that legislation is required rather to secure to children the *right* of instruction. Those best informed as to the working of our common-school system regard this failure to instruct all children as its greatest defect, and earnestly seek for means to remedy it. The public mind has not as yet been very generally drawn to the consideration of this question, but speeches like that of Mr. Bateman will awaken interest in it. There are many other interesting discussions in this book, which we heartily commend to teachers and to the public in general. The price is \$1.75 post-paid. Address S. H. White, Peoria, Ill.

MR. ARMOR'S "Lives of the Governors of Pennsylvania"*

* LIVES OF THE GOVERNORS OF PENNSYLVANIA from 1609 to 1872, by William C. Armor. Philadelphia: James K. Simen. 1873.

is a work of real value as a contribution to our Biographical literature. Such a work requires long and patient research, often the comparison and reconciliation of conflicting dates, and that careful equipoise in the narrative which will render exact justice to the views of differing parties, even while the policies which divide them are still matters of public discussion. We have no heart, in a work of such labor, to descend to any petty criticisms of style or expression, and in this case there is little need of them, for the work is exceptionally well written. We can only regret that we have not a similar volume containing the history of the Governors of the Empire State.

"Monroe's Third Reader" (COWPERTHWAIT & Co.) is one of the most sensible little books we have seen in a long time. It is a neat volume, printed in clear type and well illustrated. The selections are fresh and interesting.

"Apgars' Geographical Drawing Book" (COWPERTHWAIT & Co.) will prove an assistance in fixing in the memory the shapes of countries. The system of curves for showing the height of mountains is quite good.

WILLIAM E. GRIFFIS, A.M., Professor of Chemistry and Physics in the Imperial College at Yedo, has prepared the "New Japan Pictorial Primer," which is introductory to a series of New Japan Readers. It is a good book, well illustrated and printed. We must, however, object to Mr. Griffis giving the Japanese false ideas regarding a city stage (p. 33). "Two horses draw it and it goes very fast." Imagine a Japanese getting into a stage and expecting to go "very fast." He would certainly think that his pictorial primer had fooled him. He might come to the same conclusion were he to imitate the little girl (p. 28) who "holds a crab in her left hand." He might better follow the example of "Tip" (p. 13), a sensible dog who is evidently afraid of being pinched by his crab.

To use "La Grammaire en Action" (J. B. LIPPINCOTT & Co.) presupposes quite a thorough knowledge of French. The Lady of Lyons is not an easy play to translate, but a great deal of help is given by the excellent rules and vocabu-

lary which this book contains. The rules are of course quite meagre, but they answer their end, which is, not so much to instruct beginners as to refresh the memory of those who have grown rusty in the grammar. Especially valuable is the list of irregular verbs, those stumbling blocks which well-nigh drive pupils to despair. A few letters to be answered in French end this work. It will undoubtedly prove very acceptable to students of French.

"OWEN'S College Junior Course of Chemistry" (MACMILLAN & CO.) is admirably fitted for use as a text-book. The subject-matter has been carefully compiled, and, while the minutiae of different processes are not entered into, an outline is given sufficiently complete to make the addition of details by the teacher an easy matter. From the same house we have received "Words and Places," a very interesting and instructive book by Rev. Isaac Taylor. It is a pity that both these publications are disfigured by Macmillan & Co.'s catalogue, 94 pages in length, at the back of the book.

THE Students' Series of Messrs. HARPER & BROTHERS has received a valuable addition in "Hallam's Constitutional History of England," a work too well known to need further commendation. The volume now presented to the public is of convenient size and is handsomely printed.

SANTO DOMINGO is comparatively an unknown land to us, because for many years it has exercised no influence in a political or commercial way. Now, however, that there is a prospect of establishing trade between that island and the United States, everything throwing light on the history and characteristics of the Dominicans will be read with interest. Mr. Hazard's "Santo Doming, Past and Present" (HARPER & BROTHERS) gives a great deal of information in a pleasant, readable way. The style is however far from classical, it becomes objectionable occasionally. For example: the author speaks of one individual as a "mahogany-colored, bald-headed, spectacled, wiry old cuss." However vivid the description may be it certainly is not elegant. This volume belongs to a class which may be called journalistic histories, fact and anecdote combined in an agreeable manner. From

the same house we have received "Nicholas Nickelby," (Household Edition) "Middlemarch," "Robin Gray" and "A Passion in Tatters."

THE fact that "Thornton Hall" is published by A. D. F. RANDOLPH & CO. is sufficient guarantee that the book is a good one.

RECEIVED from SCRIBNER, ARMSTRONG & CO., "History of the Reformation," by G. P. Fisher, D.D., an impartial history published in Scribner's best style.

MISCELLANEA.

DR. DAVID MURRAY, for ten years professor of mathematics in Rutgers College, has been appointed by the Japanese government to organize their new system of public instruction. The progressive party in Japan seem resolved to cut away altogether from their old civilization and start on a new course, and they realize the importance of efficient leaders. Failing to find them in their own country they come to ours, and now many Americans hold responsible positions in Japan. Among all the good appointments, none, we are sure, will prove more fortunate than that of Dr. Murray. A Christian gentleman, of large experience, and possessing great executive ability, he is admirably adapted for the position and will be a worthy representative of America in Japan. While we are sorry that Rutgers is to be deprived of his services, we are glad to know that he will have an opportunity of exercising his powers for the benefit of a nation. The appointment was a surprise to the public, inasmuch as Dr. Murray did not seek it, and because it was asserted on the best authority that Hon. B. G. Northrop, Secretary of the Board of Education of Connecticut, had already accepted the position. This was however a mistake, the commission having never been offered him. Dr. Murray leaves in May, expecting to remain in Japan for two years.

DIFFERENT ALPHABETS.—The Sandwich Island has twelve letters; the Burmese, nineteen; the Italian, twenty; the Bengalese, twenty-one; the Hebrew, Syriac, Chaldee, Samaritan and Latin, twenty-two each; the French, twenty-three; the Greek, twenty-four; the German and Dutch, twenty-six each; the Spanish and Slavonic, twenty-seven each; the Arabic, twenty-eight; the Persian and Coptic, thirty-two; the Georgian, thirty-five; the Armenian, thirty-eight; the Russian, forty-one; the Muscovite, forty-three; the Sanscrit and Japanese, fifty each; the Ethiopic and Tartarian, two hundred and two each.

POPULATION OF THE GLOBE.—There are on the globe 1,288,000,000 souls, of which 360,000,000 are Caucasians; 522,000,000 are Mongolians; 190,000,000 are Ethiopians; 176,000,000 are Malayans; 1,000,000 are Indo-Americans. There are 8,642 languages spoken, and 1,000 religions. The yearly mortality of the globe is 42,043,000 persons. That is at the rate of 115,200 per day, 4,800 per hour, 80 per minute. Among 10,000 persons, one arrives at the age of 100; one in 500 attains the age of 80; one in a 100 to the age of 70. In 100 persons, 95 marry.

CONSTANTINOPLE has forty-three newspapers, of which nineteen appear daily. Of the latter five are Turkish, four French, two English, five Armenian, and three Greek.

INCLUDING VIENNA, Germany now reckons eight geographical societies. That of Vienna has a membership of about 500; Munich, 400; Berlin, 380; Dresden, 270; Leipzig, 250; Frankfort-on-the-Main, 150; Kiel, 100; Darmstadt, 80.

SENSATION IN THE MOUSE'S EAR.—Dr. Schobl, of Prague, has made the distribution of nerves to the ear of the mouse a subject of special examination, and calls attention to the fabulous richness of this organ in nerves, the bat's wing being in comparison but poorly supplied. The ear of a mouse of ordinary size presents, on an average, six thousand nerve terminations, or, for both ears, twelve thousand. The function of this elaborate development is probably, as in the case of the bat's wing, to enable the animal to guide its way through dark, narrow passages.